

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1. (Previously Presented) A method of determining a position of an external transceiver relative to an implanted transceiver, the method comprising:

measuring the strength of a magnetic field proximal to the external transceiver, wherein the magnetic field is generated at least in part by the external transceiver; and

determining a position of the external transceiver relative to the implanted transceiver from said measured magnetic field strength.

2. (Previously Presented) The method according to claim 1 wherein determining comprises:

comparing a measured strength of magnetic field proximal to the external transceiver to a threshold value.

3. (Currently Amended) The method according to claim 2 further comprising:

indicating that the external transceiver has been displaced when the measured strength of magnetic field proximal to the external transceiver exceeds is greater than the threshold value.

4. (Previously Presented) The method according to claim 3 wherein indicating comprises:

providing an audible indication.

5. (Previously Presented) The method according to claim 1 wherein determining comprises:
mapping said measured magnetic field strength to a distance value.
6. (Previously Presented) The method according to claim 5 wherein mapping comprises:
consulting a look-up table comprising a plurality of pairs of values, each pair of values mapping a particular magnetic field strength to a corresponding transceiver separation distance.
7. (Previously Presented) The method according to claim 5 wherein mapping comprises:
algorithmically converting said measured value of magnetic field into a corresponding transceiver separation distance.
8. (Previously Presented) The method according to claim 1 further comprising:
providing a transcutaneous link between the external transceiver and the implanted transceiver, the link being bidirectional such that the external transceiver and the implanted transceiver transmit and receive signals across the transcutaneous link.
9. (Previously Presented) The method according to claim 8 further comprising:
transmitting power and data signals from the external transceiver to the implanted transceiver across the transcutaneous link.
10. (Previously Presented) The method according to claim 8 further comprising:
transmitting data signals from the implanted transceiver to the external transceiver across the transcutaneous link.

11. (Previously Presented) The method according to claim 1 further comprising:

providing a transcutaneous link between the external transceiver and the implanted transceiver, the link being unidirectional such that the external transceiver, comprising a transmitter, transmits signals to the implanted transceiver, comprising a receiver, across the transcutaneous link.

12. (Previously Presented) The method according to claim 11 wherein the signals transmitted by the transmitter are power and data signals.

13. (Previously Presented) The method according to claim 1 wherein measuring comprises:

positioning a pick-up coil proximal to the external transceiver such that a voltage induced on the pick-up coil is indicative of a magnetic field proximal to the external transceiver.

14. (Previously Presented) The method according to claim 13 further comprising:

the positioning the pick-up coil in a plane substantially perpendicular to a primary axis of the magnetic field, wherein the magnetic is produced between the external receiver and the implanted receiver.

15. (Previously Presented) The method according to claim 14 wherein the pick-up coil comprises an open-circuited single turn positioned concentrically with turns of the external receiver.

16. (Previously Presented) An apparatus for determining a position of an external transceiver relative to an implanted transceiver, the apparatus comprising:

means for measuring the strength of a magnetic field proximal to the external transceiver, wherein the magnetic field is generated at least in part by the external transceiver; and
means for determining a position of the external transceiver relative to the implanted transceiver from said measured magnetic field strength.

17. (Previously Presented) The apparatus according to claim 16 further comprising means for comparing a measured strength of magnetic field proximal to the external transceiver to a threshold value.

18. (Currently Amended) The apparatus according to claim 17 further comprising means for indicating that the external transceiver has been displaced when the measured strength of magnetic field proximal to the external transceiver exceeds is greater than the threshold value.

19. (Previously Presented) The apparatus according to claim 18 wherein the means for indicating comprises any one of an audible alarm, or a visible indicator.

20. (Previously Presented) The apparatus according to claim 16 further comprising means for mapping a measured magnetic field strength proximal to the external transceiver to a distance value.

21. (Previously Presented) The apparatus according to claim 20 wherein the means for mapping comprises a look-up table comprising a plurality of pairs of values of magnetic field strength to transceiver separation distance.

22. (Previously Presented) The apparatus according to claim 20 wherein the means for mapping comprises means for algorithmically converting said measured value of magnetic field into a corresponding transceiver separation distance.
23. (Previously Presented) The apparatus according to claim 16 wherein the external transceiver and the implanted transceiver provide a transcutaneous link.
24. (Previously Presented) The apparatus according to claim 23 wherein the transcutaneous link comprises an RF link.
25. (Previously Presented) The apparatus according to claim 23 wherein the transcutaneous link is bidirectional such that the external transceiver and the implanted transceiver transmit and receive signals across the transcutaneous link.
26. (Previously Presented) The apparatus according to claim 25 wherein power and data signals are transmitted from the external transceiver to the implanted transceiver across the transcutaneous link.
27. (Previously Presented) The apparatus according to claim 25 wherein data signals are transmitted from the implanted transceiver to the external transceiver across the transcutaneous link.
28. (Previously Presented) The apparatus according to claim 23 wherein the transcutaneous link is unidirectional, the external transceiver comprises a transmitter and the implanted transceiver comprises a receiver, such that the transmitter transmits signals to the receiver across the transcutaneous link.
29. (Previously Presented) The apparatus according to claim 28 wherein the signals transmitted by the transmitter are power and data signals.

30. (Previously Presented) The apparatus according to claim 16 wherein the means for measuring the strength of the magnetic field proximal to the external transceiver comprises a pickup coil positioned proximal to the external transceiver, such that a voltage induced on the pickup coil is indicative of a magnetic field proximal to the external transceiver.

31. (Previously Presented) The apparatus according to claim 30 wherein the pickup coil is positioned in a plane substantially perpendicular to a primary axis of the magnetic field and wherein the magnetic field is produced by the transceivers.

32. (Previously Presented) The apparatus according to claim 31, wherein the external transceiver comprises a transmitter coil comprising turns and wherein the pickup coil comprises an open circuited single turn positioned concentrically with turns of the external transceiver.

33. (Previously Presented) The apparatus according to claim 30, further comprising:

peak detector means; and

wherein an output of the pick-up coil is passed through the peak detector means.

34.-57. (Canceled)

58. (Currently Amended) An apparatus for determining a position of an external transceiver relative to an implanted transceiver, the apparatus comprising:

means for measuring the strength of a magnetic field proximal to the external transceiver;

means for determining a position of the external transceiver relative to the implanted transceiver from said measured magnetic field strength;

means for comparing a measured strength of magnetic field proximal to the external transceiver to a threshold value;

means for indicating that the external transceiver has been displaced when the measured strength of the magnetic field proximal to the external transceiver exceeds is greater than the threshold value; and

means for mapping comprises a look-up table comprising a plurality of pairs of values of magnetic field strength to transceiver separation distance.

59. (Canceled)